

**I. Rejection of claims 1-2 and 14-15 under 35 U.S.C. § 103**

Claims 1-2 and 14-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell (U.S. Patent No. 5,276,472) in view of Nakamura (U.S. Patent No. 5,684,262).

In response to Applicant's arguments that the combination of Nakamura with Bell is not obvious, the Examiner continues to assert that the combination is obvious even though Nakamura uses tone conversion for a different purpose. In particular, the Examiner asserts that obviousness is not based on whether the feature of the secondary reference may be bodily incorporated into the structure of the primary reference.

However, Applicant submits that in determining obviousness the Examiner should look at the references **as a whole** as to what they would teach or suggest to one of skill in the art. MPEP 2145. The references must be read as a whole and consideration must be given where the references diverge and teach away from the claimed invention. *Akzo N.V. v. U.S. International*, 808 F.2d 1471, 1481 (Fed. Cir. 1986). Moreover, the Examiner cannot pick and choose among individual parts of assorted prior art references as a mosaic to recreate a facsimile of the claimed invention. *Id.*

In this case, Applicant submits that the speech data of an exemplary embodiment of the present invention is associated with image data. There is no teaching or suggestion that the tone converted voice signals of Nakamura are to be associated with an image. In particular, a voice signal of Nakamura is converted so as to impart a unison effect to an inputted voice signal to provide a sophisticated audio effect as if a plurality of people were singing (col. 2, lines 30-37),

resulting in a more sophisticated karaoke system. The tone convertor of Nakamura has a specific purpose of combining multiple sources of sound, including the original voice, a shifted version of that voice and instrumental play back. Thus, the output is not of the tone converted speech signal, but a composite of several audio sounds, not the tone converted speech. The Examiner cannot merely pick the individual signal out of Nakamura for purposes of making the rejection. To do so is purely an exercise in hindsight reconstruction.

On the other hand, the inclusion of the composite aural information in Nakamura bears no relation to the present invention, thereby rendering it non-analogous art. Given the processing of the magnetic film strip in Bell, one skilled in the art would not have contemplated the extensive process of Nakamura, much of which would likely not be retained on reproduction.

As previously indicated, Nakamura discloses three modes of tone conversion including a first mode which is a fixed mode which converts a supplied digital audio signal into a digital audio signal that is a preset pitch lower than the supplied digital audio signal, a second mode which is a sound level control mode for controlling a tone controller to convert the supplied digital audio signal depending on the level of the voice signal picked up by a microphone, and a third mode which is a genre-dependent control mode for controlling the tone controller to convert the supplied digital audio signal depending on the genre of the music piece that is reproduced. See col. 4, line 64 to col. 6, line 42. The different modes result in a unison effect of voice data as if two singers were singing although only one singer is singing.

There is no teaching or suggestion that the tone conversion disclosed in Nakamura is desired in Bell. Further, contrary to the Examiner's assertions, it is unlikely that the genre (e.g. pop, rock and roll, or jazz) of a musical piece to be played on the karaoke system disclosed in Nakamura would be desired in the camera system of Bell.

Claim 1 further recites "a speech data output unit for outputting said tone-converted speech data in association with said image data." The Examiner asserts that the combination of Nakamura with Bell discloses this aspect of claim 1. Printer 43 of Bell merely prints bar code information without regard to tone-conversion. See col. 5, lines 35-44. Further, there is no teaching or suggestion in the Bell reference that printer 43 should be modified to output tone-converted speech data, and the Examiner has not established otherwise. In particular, Bell is not concerned with tone-converted speech data, let alone a speech data output unit for outputting tone-converted speech data in association with said image data. Consequently, the Examiner is adding additional components to the system of Bell when such a modification is not taught or suggested.

Moreover, the Examiner's assertion that the mere insertion of an additional audio process step is trivial in the art and would not require any substantial modification of the operation of Bell, is improper. For example, the Nakamura patent alone, goes into depth regarding the three methods of modifying a voice signal, which evidences that the insertion of an additional audio process is not trivial.

For at least the above reasons, claim 1 and its dependent claims should be deemed allowable. Since claim 14 recites similar elements, claim 14 and its dependent claims should also be deemed allowable for at least the same reasons. To the extent independent claims 9 and 26 recite similar elements, claims 9 and 26 should also be deemed allowable for at least the same reasons.

## **II. Rejection of claims 3, 9, 16 and 26 under 35 U.S.C. § 103**

Claims 3, 9, 16 and 26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell in view of Nakamura and Leveque (U.S. Patent No. 5,495,468).

Claim 3 recites that “the voice tone convertor generates conversion data for tone conversion control, and sends said conversion data to said speech data output unit.” The Examiner continues to assert that Leveque cures this deficiency of Bell and Namakura. In particular, that Bell teaches outputting speech data in a digital bar code form via a printer, that Nakamura discloses performing tone conversion on speech data before outputting, and that Leveque teaches adding conversion data to the sound before the data is output. Further, the Examiner asserts that simply adding small audio processing steps to the processing of an audio signal before output is a trivial matter for one of ordinary skill in the art.

As indicated above, modifications to audio processing steps is not a trivial matter, and as evidenced by Nakamura, col. 4, line 50 to col. 6, line 43, can require complex processing on voice signals.

Further, as previously indicated, Leveque discloses a system for transmitting a plurality of waveforms over a single communications channel using Lincompex. See Field of the Invention. Lincompex compressors provide compressed voice signals and control tones. However, both sets of data comprise data processed in some manner and thus there is no speech data **prior to** conversion as claimed. Moreover, although the compressed voice signals and control tones are output to a transmission medium, a transmission medium is not the printer 43 (speech data output unit) as originally cited by the Examiner.

Assuming *arguendo*, Leveque teaches conversion data, there is no teaching or suggestion that the conversion data of Leveque should be output to the printer 43 (speech data output unit as cited by the Examiner) of Bell. In particular, it is unclear how the conversion data of Leveque which is transmitted over a communications channel using Lincompex would be printed on printer 43, and there is no teaching or suggestion of such a modification within the prior art which evidences that the Examiner's reasoning is merely a result of impermissible hindsight.

Moreover, merely because Nakamura desires compensation for tone variation and Leveque desires saving conversion data in a different frequency band than audio data, would not motivate one of skill in the art to modify the printer of Bell as suggested by the Examiner.

For at least the above reasons, claim 3 should be deemed patentable. Since claim 16 recites similar elements, it should also be deemed patentable for the same reasons.

**III. Rejection of claims 17-18 under 35 U.S.C. § 103**

Claims 17-18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell in view of Nakamura and Kinoshita (U.S. Patent No. 4,983,996). Claims 17 and 18 should be deemed patentable by virtue of their dependency to claim 14 for the reasons set forth above. Moreover, Kinoshita does not cure the deficiencies of Bell and Nakamura.

**IV. Rejection of claim 19 under 35 U.S.C. § 103**

Claim 19 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell in view of Nakamura and Hatada (U.S. Patent No. 4,270,853).

As discussed above, in determining obviousness, the Examiner must look at the references in their entirety. MPEP 2145. The references must be read as a whole and consideration must be given where the references diverge and teach away from the claimed invention. In addition, the Examiner cannot pick and choose among individual parts of assorted prior art references as a mosaic to recreate a facsimile of the claimed invention.

As previously indicated, Hatada teaches away from Bell. In particular, Hatada discloses an instant-printing film and camera. As discussed in Bell (col. 1, lines 15-42; col. 1, line 65 to col. 2, line 7) the deficiencies of the Hatada reference are identified. In particular, "a problem with the photographic film systems described above is that the magnetic strips, if kept integral with the prints, are limited to use with instant print cameras." Consequently, Bell teaches away from the cameras disclosed in Hatada. Therefore, the combination of Hatada with Bell and Nakamura is not obvious and claim 19 should be deemed allowable.

**V. Rejection of claims 4-7, 20-22 and 24 under 35 U.S.C. § 103**

Claims 4-7, 20-22 and 24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell in view of Nakamura and Bernardi (U.S. Patent No. 5,692,225). Claims 4-7, 20-22 and 24 should be deemed patentable by virtue of their dependency to claims 1 and 14 for the reasons set forth above. Moreover, Bernardi does not cure the deficiencies of Bell and Nakamura.

In addition, contrary to the Examiner's assertions, Applicant is not using generalizations and Applicant has demonstrated why Bernardi would not be combined with Bell and Nakamura to teach the elements of Applicant's claimed invention.

As discussed on pages 1-2 of the specification as originally filed, in Bernardi, the speech data associated with the image data is retrieved from a memory card or other recording medium and is converted to a bar code. In playing back speech data, the bar code is read from a print together with a bar code. However, a shortcoming of the Bernardi reference is that because the speech is original as recorded by a user, it is difficult to understand aurally. Since Bernardi is contrary to the present invention, it is unlikely that one of ordinary skill in the art would combine the Bernardi reference with Bell and Nakamura in order to teach the claimed invention. Consequently, claims 4-7, 20-22 and 24 should be deemed allowable.

**VI. Rejection of claim 23 under 35 U.S.C. § 103**

Claim 23 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell in view of Nakamura, Bernardi and Kinoshita. Claim 23 should be deemed patentable for the

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reasons set forth above with respect to claim 17. Moreover, Kinoshita does not cure the deficiencies of Bell, Nakamura and Bernardi.

**VII. Rejection of claims 8 and 25 under 35 U.S.C. § 103**

Claim 8 and 25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bell in view of Nakamura, Bernardi and Spies (U.S. Patent No. 6,035,273). Claims 8 and 25 should be deemed patentable by virtue of their dependency to claims 1 and 14 for the reasons set forth above. Moreover, Spies does not cure the deficiencies of Bell, Nakamura and Bernardi.

**VIII. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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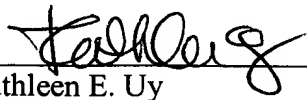
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